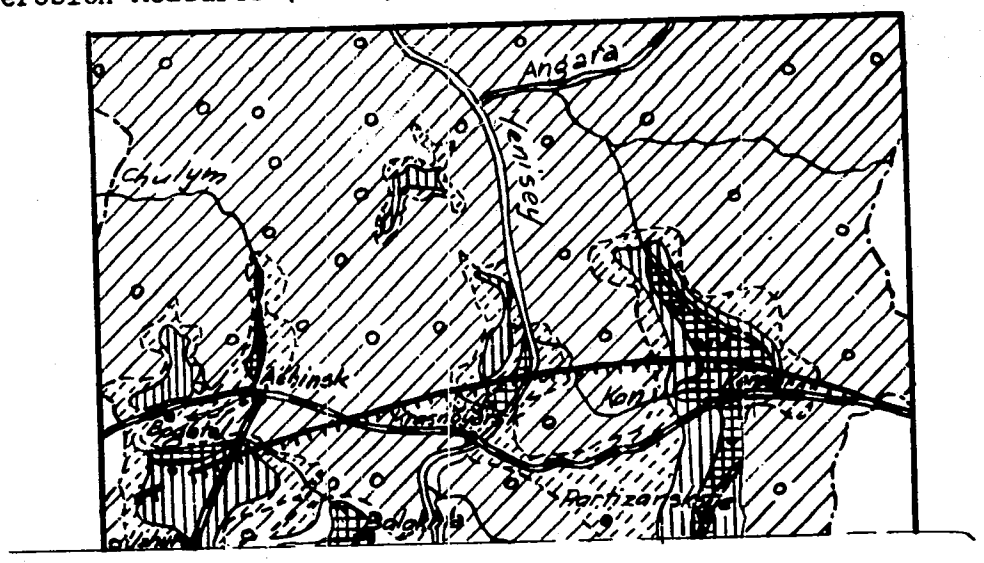
14-57-7-14409

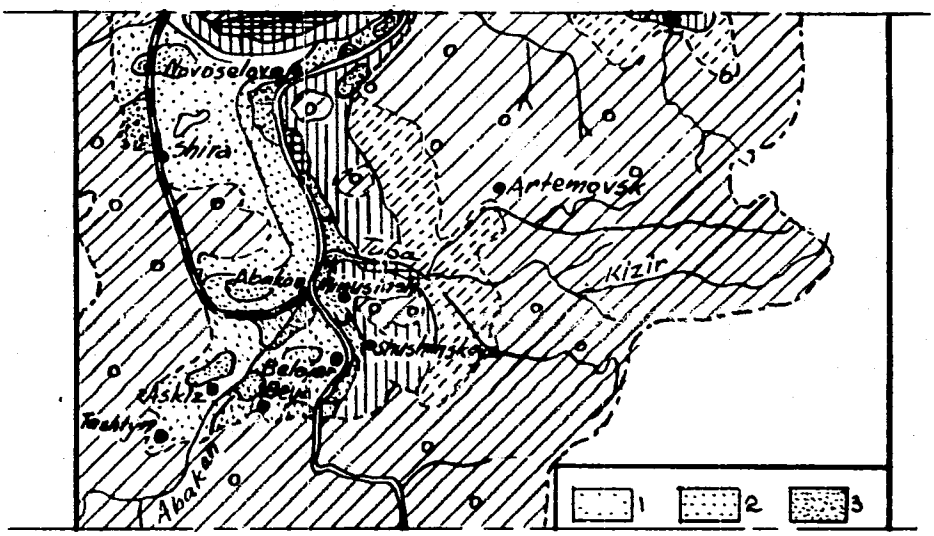
Antierosion Measures (Cont.)



Card 3/5

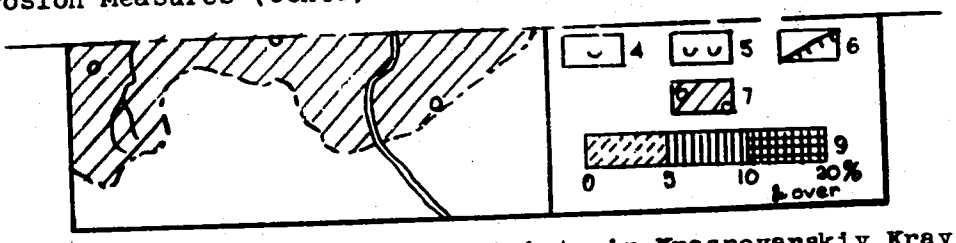
14-57-7-14409

Antierosion Measures (Cont.)



Card 4/5

Antierosion Measures (Cont.)



Soil Erosion Map of Main Districts in Krasnoyarskiy Kray

1) Slight erosion; 2) intermediate erosion; 3) intense erosion; 4) few gullies; 5) numerous gullies; 6) northern limit of widespread eolian erosion; 7) mountains and taiga; 8) sheet erosion of soil--medium eroded and strongly eroded soils, in percent of meadow and range area.

G. K.

Card 5/5

CHEREMISINOV, G.A.; POLEZHAYEVA, Z.I.

Distribution of soils in the Minusinsk Depression as related to surface features and erosion processes. Pochvovedenie no.3:80-86 Mr '59. (MIRA 12:11)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Minusinsk Lowland--Soils)

TKACHENKO, P.V., GEROY Sotsialisticheskogo Truda; DUSHANINA, G.A., agronom; CHERMISINOV, G.A., kand.sel'skokhozyaystvennykh nauk

Erosion control. Zemledelie 7 no.4:46-49 Ap '59. (MIRA 12:6)

1. Predsedatel' kolkhoza imeni Dzerzhinskogo, Bogradskogo rayona Khakasskoy avtonomnoy oblasti, Krasnoyarskogo kraya (for Tkachenko).
2. Kolkhoz. im. Dzerzhinskogo Bogradskogo rayona, Khakasskoy avtonomnoy oblasti, Krasnoyarskogo kraya (for Dushanina).
(Erosion)

CHEREMISINOV, G.A., kand.sel'skokhozyaystvennykh nauk, dots.

Green fallows and stubble crops as means of controlling soil erosion and increasing the productivity of eroded soils. Zemledelie 7 no.12:58-61 D '59. (MIRA 13:3)

1. Poltavskiy sel'skokhozyaystvennyy institut.
(Soil conservation) (Fallowing)

PAZYNICH, I.; CHERMISINOV, G., kand.sel'skokhozyaystvennykh nauk

For efficient utilization of slopes. Nauka i pered.op.v sel'-khoz. 9 no.9:71-73 S '59. (MIRA 13:2)

1. Predsedatel' kolkhoza "Drushba," Poltavskogo rayona, Poltavskoy oblasti (for Pazynich).
(Poltava District--Agriculture)

CHERNYSHINOV, G.A.

Proserine and sinestrol as means of sterility control.
Zhivotnovodstvo 21 no.7:75-76 Je '59. (MIRA 12:9)

1. Zaveduyushchiy Bukreyevskim vetuchastkom, Besedinskogo rayona, Kurskoy oblasti.
(Phenol) (Neostigmine)
(Besedino District--Sterility in animals)

CHEREMISINOV, G.A.

Agronomic properties and fertility of eroded soils in Poltava Province. Nauch. dokl. vys. shkoly; biol. nauki no.3:204-209 '60. (MIRA 13:8)

1. Rekomendovana kafedroy obshchego zemledeliya Poltavskogo sel'skokhozyaystvennogo instituta.
(Poltava Province--Soils) (Erosion)

CHEREMISINOV, G.A.

Means of preventing sterility. Zhivotnovodstvo 23 no.3:52-53 Mr '61. (MIRA 17:1)

1. Zaveduyushchiy Bukreyevskim veterinarnym uchastkom Besedinskogo rayona Kurskoy oblasti.

CHEREMISINOV, G.A.

Some agrobiologic properties of eroded soils in Poltava Province. Pochvovedenie no.1:100-104 Ja '62.
(MIRA 17:1)

CHEREMISINOV, G.A.

Agricultural characteristics of eroded soils. Izv.AN SSSR.Ser. biol. no.5:767-781 S-O '62. (MIRA 15:10)

1. Chair of General Agriculture, Agricultural Institute, Poltava.
(POLTAVA PROVINCE--EROSION)

CHEREMISINOV, G.A.

Vasilii Petrovich Mosolov; on the 75th anniversary of his birthday.
Zemledelie 25 no.9:88-89 S '63. (MIRA 16:9)
(Mosolov, Vasilii Petrovich, 1888-1951)

CHERNISINOV, Georgiy Andrianovich, doktor sel'khoz. nauk;
BORODKINA, L.A., red.

[Use fertilizers wisely; reference book for compuslory education in agricultural chemistry] Razumno ispol'zovat' udobreniia; posobie dlia agrokhimicheskogo vseobucha. Moskva, Rossel'khozizdat, 1964. 60 p. (MIRA 17:7)

CHEREMISINOV, G.A.

Increasing the effectiveness of fertilizers. Zemledelie 26 no.1:12-22 Ja'64. (MIRA 17:5)

1. Direktor Vsesoyuznogo nauchno-issledovatel'skogo instituta udobreniy i agropochvovedeniya.

CHEREMISINOV, G.A., aspirant; AKATOV, V.A., prof., nauchnyy rukovoditel' raboty; IVANOVA, T.M., dotsent, nauchnyy rukovoditel' raboty

Changes in the ovaries of cows under the effect of pregnant mare's serum and blood. Veterinariia 42 no.12:64-68 D '65.
(MIRA 19:1)

1. Voronezhskiy sel'skokhozyaystvennyy institut.

CHEREMISINOV, M.M., inzh.

Mechanization of ground and snow removal from trenches. Stroi. truboprov. 3 no.9:17-18 S '58. (MIRA 11:12)
(Excavating machinery) (Snow removal)

NIKOLAYEV, S.I., red.; SALUKVADZE, V.S., red.; ANDRIANOV, K.I., red.; VASIL'YEV, A.Ye., red.; ZHIKHAREVA, G.P., red.; KRYLOV, P.I., red.; KSHONDZER, G.L., red.; KHRAMIKHIN, F.G., red. [deceased]; CHEREMISINOV, M.M., red. Prinimali uchastiye: ANUCHKIN, M.P., red.; GRIGOR'YEVA, M.B., red.; ZHUKOV, V.I., red.; KALYUZHNYY, N.G., red.; KAMERSHTEYN, A.G., red.; KOZLOVSKAYA, A.A., red.; LAVROVA, N.P., red.; NUSOV, G.I., red.; FAL'-KEVICH, A.S., red.; YERSHOV, P.R., vedushchiy red.; FEDOTOVA, I.G., tekhn.red.

[Safety regulations for constructing steel pipelines] Pravila tekhniki bezopasnosti pri stroitel'stve magistral'nykh stal'nykh truboprovodov. Moskva, Gos.nauchno-tekhn.izd-vo neft. i gorno-toplivnoi lit-ry, 1960. 235 p. (MIRA 13:9)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gazovoy promyshlennosti. 2. Vsesoyuznyy nauchno-issledovatel'skiy institut tverdykh splavov (for Anuchkin, Grigor'yeva, Zhukov, Kalyuzhnyy, Kamershteyn, Kozlovskaya, Lavrova, Nusov, Fal'kevich).
(Pipelines) (Industrial safety)

L 06215-67 EWT(1) GW

ACC NR: AP6022048 (A) SOURCE CODE: UR/0100/66/000/004/0028/0028

AUTHOR: Cheremisinov, M. M. (Engineer)

ORG: none

TITLE: New vehicle for swamp and snow work

SOURCE: Mekhanizatsiya stroitel'stva, no. 4, 1966, 28

TOPIC TAGS: transport, tractor, truck, arctic vehicle, tracked vehicle, automobile, bus, motor vehicle / ZIL-130 automobile, ZIL-127 bus

ABSTRACT: The performance characteristics and construction of the "Vityaz'" truck tractor model V-1 are described. The vehicle is intended for cross-country use in swampy, sandy, or snowy areas such as those found in the Near North, in Siberia, or in the Far East. The vehicle is a cross between a truck and a caterpillar tractor. It features a 30-ton cargo-carrying capacity and a tracking system which was extensively field-tested over a period of two years. The vehicle's power plant develops 148 hp at 3000 r.p.m. and has a transmission which is the same as that used in the ZIL-130 automobile. The engine is gasoline-powered and V-shaped. The vehicle is capable of four gear speeds forward and one in reverse; the forward speeds range from 5.37 km/hr to 27.2 km/hr, and the single reverse speed is 5.2 km/hr. Some details of the differential are given: basically the drive train and differential are those used in the ZIL-130. Rubber wheels travel the inside of the tracks which are 920 mm wide.

Card 1/2

UDC: 620.114.9

L 06215-67

ACC NR: AP6022048

The construction of the tracks is such that they can be easily removed and repaired. Some aspects of the vehicle's steering mechanisms are patterned after those found in the ZIL-127 bu . Additional data are given on the dimensions of the vehicle and the track-to-ground contact pressure. Orig. art. has: 1 photograph.

SUB CODE: 13/ SUBM DATE: none

Card 2/2 LC

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

CA

15

A possible use of the waste of the synthetic rubber industry. N. A. C[illegible]. *Plant Protection* (U. S. S. R.) [illegible], No. [illegible], [illegible].—The ether-aldehydic fraction obtained as waste from the synthetic rubber industry contains 32% Et_2O, 20-30% AcH and the hydrocarbons amylene, divinyl, etc. A 5-10% soln. in doses of 20-30 l. per ton of wheat seeds reduced the capacity of the seeds for infection by *Tilletia tritici*, *Ustilago hordei* and *Ustilago avenae* from 100 to 0.1-0.9%. In the same concns. oat and barley seeds showed a reduced capacity for infection from 100 to 10.4-20.2% and 4.0-9.5%, resp.

S. A. Karjala

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

CHEREMISINOV, N. A.

Cheremisinov, N. A. "Fungi Collected in the Khrenovoi Steppe State Reservation." Trudy Voronezhskogo Gosudarstvennogo Universiteta, vol. 10, no. 5, 1939, pp. 7-15. 511 V912

So: SIRA SI - 90-53, 15 Dec., 1953

CHEREMISINOV, N. A.

37416. Protravlivaniye Semyan Kok-sagyza. V Sb: Za Vysokuyu Kul'turu Zemledeliya. Kursk, 1949, s. 123-29.

SO: Letopis' Zhurnal'nykh Statey, Vol. 7, 1949

Review of Applied Mycology

СИНЕНИНКОВ (N. A.). Сохранить естественные заросли Кок-Сагыза. [Preservation of natural growths of Kok-Saghyz.]—Природа [*Nature*], *1951*, 4, pp. 45–46, 1951.

From the observations made during the summer of 1950 in the areas where kok-saghyz (*Taraxacum kok-saghyz*) is grown in the U.S.S.R., in addition to the fungus diseases already mentioned elsewhere [*R.A.M.*, 15, p. 740; 20, p. 423; 25, p. 329; and preceding abstract], the following were found to attack the crop readily in its natural state: *Plesospora kok-saghyz*, *Septoria kok-saghyz*, *Alternaria tenuis*, *Phoma kok-saghyz*, and unspecified fungi causing root rot [loc. cit.]. Infection in most cases was heavier on wild plants than in plantations and disease often spread from the former, the seeds of which are used in plantations, to the latter.

Cherkashenkov (N. A.). Мичуринское учение—основа мероприятий по борьбе с болезнью Кок-Сагыз. [Michurin teaching—a basis for control measures for the disease of Kok-Saghyz.]—Природа [*Nature*], *1951*, 6, pp. 30–36, 1951.

From 1947 to 1949 field surveys and experiments were carried out at the Kurak Scientific Research Station to find possible control measures for the disease threatening kok-saghyz [*Taraxacum kok-saghyz*: see next abstract] plantations in the U.S.S.R. By limiting the cultivation period of the crop to one year, rust [*Puccinia taraxaci*: *R.A.M.*, 31, p. 31], powdery mildew [*Sphaerotheca fuliginea f. kok-saghyz*: loc. cit.], root rots and vascular diseases [ibid., 30, p. 423], such as *Rhizoctonia* and white mould (*Sclerotinia libertiana*), were reduced considerably. Hybridization and selection of healthy disease-resistant plants for seed production are strongly recommended. Seeds of greater absolute weight give a more vigorous, earlier, and more disease-resistant young growth; plants grown from large, high-quality seeds showed higher resistance to [unspecified] tracheomycosis

Review of Applied Mycology

CHERKESHOV (N. A.). Мучнистая роса кок-сагыза. [Mildew of Kok-Saghyz.]—Бот. журн. [*J. Bot. U.S.S.R.*], 36, 1, pp. 72–77, 2 figs., 1951.

The author considers that the form of powdery mildew (*Sphaerotheca fuliginea*) on *Taraxacum kok-saghyz* is a new form, *S.f.f. kok-saghyz*. It differs from the species in its morphology. It is nearest to f. *taraxaci* [*R.A.M.*, 18, p. 615], although its cleistocarps are twice as large, 72·8 to 91 μ in diameter, and the outer cells of the peridium half the size, 14·4 to 18 by 10·8 to 14·4 μ. There is little difference in the ascospores, which are almost globular and 14·4 to 18 μ in diameter. The asci measure 47·6 to 64·8 by 46 to 57·6 μ and are ellipsoidal or globular. Appendages

1. CHERMISINOV, N.A.

2. USSR (600)

4. Fungi

7. New species of Sphaeropsidales on kok-saghyz., Bot.mat.Otd.spor.rast. 8, 1952.

9. Monthly List of Russian Accessions, Library of Congress, APRIL 1953, Uncl.

USSR/Biology, Agriculture -- Plant Diseases Mar 52

Review of M. V. Gorlenko's Book, "Diseases of Plants and the Environment," N. A. Cheremisinov

"Priroda" Vol 41, No 3, pp 125-127

Cheremisinov states that Gorlenko discusses bacterial and fungus diseases of plants, emphasizing the effect of the environment on the host and parasite separately and on their interrelationship. According to Cheremisinov, Gorlenko pays particular attention to the possibilities of establishing immunity to erysiphe graminis, wheat rust, and some diseases of kok-saghyz and tau-saghyz. Gorlenko indicates some successes along these lines

230T1

CHEREMISINOV, N. A.

by changing heredity, fertilization, and other external factors. Book was published by Publishing House of the Moscow Soc of Naturalists, Moscow, 1950, 120 pp.

230T1

CHEREMISINOV, N.A.

Diseases of Kok-saghyz roots. Trudy Bot.inst. Ser.2 no.8:85-108 '53.

(MLRA 7:1)

(Kok-saghyz--Diseases and pests)

CHEREMISINOV, N.A., and GAPONENKOV, T.K.

Obituary on Prof. I.D. Buromskiy.

Microbiologiya. Vol.22. No.3, P. 359, 1953.

CHERKASINOV, N.A.

Mycosis of kok-saghyz cuttings. Trudy Bot.instr. Ser.2 no.9:411-438 '54.
(MLRA 7:11)

(Kok- aghyz--Diseases and pests) (Fungi in griculture)

CHEREMISINOV, N.A. (Reviewer)

USSR/Biology

Card : 1/1

Authors : Cheremisinov, N. A. Prof.

Title : Valuable contribution to science

Periodical : Priroda, 6, 127 - 128, June 1954

Abstract : Review of a book by A. S. Bondartsev entitled "Agaric Mushrooms of European USSR and the Caucasus" publiched in 1953 by the Academy of Sciences USSR.

Institution : Agricultural Institute, Voronezh

Submitted : ....

CHEREMISINOV, N.A.

Formation of mycoflora. Bot.zhur. 41 no.9:1293-1308 S '56.
(MLRA 9:11)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Fungi, Phytopathogenic) (Kok-saghyz-- Diseases and pests)

CHEREMISINOV, N.A., doktor biologicheskikh nauk.

Germinating force and infection rate of corn seed. Agrobiologiia no.2:116-117 Mr-Ap '57. (MLRA 10:5)

1.Voronezhskiy sel'skokhozyaystvennyy institut, Kafedra mikrobiologii fiziologii rasteniy i fitopatologii.
(Corn (Maize))

CHEREMISINOV M.A.

CHEREMISINOV, M.A., doktor biologicheskikh nauk.

Pathways of the infection of seed corn by fungus and measures for its prevention. Dokl.Akad.sel'khoz. 22 no.8:[illegible]-43 '57. (MLRA 10:9)

1. Voronezhskiy sel'skokhozyaystvennyy institut. Predstavlena sektsiyey zashchity rasteniy Vsesoyuznoy Akademii sel'skokhozyaystvennykh nauk imeni Lenina.
(Corn (Maize)--Diseases and pests)

USSR / Plant Diseases--Cultivated Plants 0

Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 73293

Author : Cheremisinov, N. A.

Inst : West Voronezhskiy Agricusltural Institute

Title : Michurin Study of Control of Corn Diseases

Orig Pub: Zap. Voronezhsk. s.-kh. in-ta, 1956, 26, No 2, 130-146

Abstract: The most widespread diseases of corn in Voronezhskaya Oblast are white blister, fusariosis, and bacteriosis of the ears. As follower of Michurin, the author emphasizes the importance which selection, hybridization, and agricultural engineering possess in the control of plant diseases. Recommended are: selection of healthy seed material

Card 1/2

USSR / Plant Diseases--Cultivated Plants 0

Abs Jour: Ref Zhur-Biologiya, No 16, 1958, 73293

(the most resistant to diseases are the grains from the highest ears and, within the ear, its middle part); planting with hybrid seeds; application of phosphorus and potassium fertilizers. -- S. V. Gorlenko

Card 2/2

USSR / Plant Diseases. Diseases of Cultivated Plants. 0

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No. 100574

Author : Cheremisinov, N. A.
Inst : All-Union Academy of Agricultural Sciences im. V. I. Lenin
Title : The Course of Fungus Infection in Corn Seeds and Measures for Its Prevention

Orig Pub : Dokl. VASKHNIL, 1957, No 8, 40-42

Abstract : The spores of the fungi, which are on the surface of corn seeds, can germinate during storage and penetrate into the inner tissues of the kernels, reaching the embryo. This leads to a lowering of the ability to germinate. The least increase in the moisture content of the seeds contributes to the development of the fungi by virtue of the high hygroscopicity of the kernels and especially of their embryo part. To prevent infection

Card 1/2

USSR / Plant Diseases. Diseases of Cultivated Plants. 0

Abs Jour : Ref Zhur - Biologiya, No 22, 1958, No. 100574

of the seeds, it is necessary to carry out a timely treatment with fungicides. Granosan (ethyl mercuric chloride) (at the rate of 1 kilogram/ha) and benzene hexachloride (at the rate of 2 kilograms/ha) do not lower the germinating ability of the seeds for 5 months. -- S. V. Gorlenko

Card 2/2

CHEREMISINOV, N.A.

USSR

CATEGORY : Cultivated Plants. Grains. Leguminous Grains. Tropical Cereals.

ABS. JOUR : Ref Zhur - Biologiya, No. 5, 1959, No. 20249

AUTHOR : Cheremisinov, N.A.

INST. : Voronezh Agric. Inst.

TITLE : Certain Agrotechnical Measures to Boost the Disease Resistance of Corn.

ORIG. PUB.: V. sb.: Kul'tura kukuruzy v SSSR. M., "Sov. nauka", 1957, 72-74

ABSTRACT : Data are given on the firdings of the field experiment station of Voronezh Agricultural Institute in the 1955 study of comparative susceptibility of corn varieties and hybrids to disease. The greatest resistance to boil smut, fusarium rot and bacterial infection was found in VIR-25 and VIR-42. Highly resistant were the hybrids Voronezhskiy, Dnepropetrovskiy 26, Uspekh and the varieties Voronezhskaya 76 and Dnepropetrovskaya. The

CARD: 1/2

COUNTRY :
CATEGORY : Cultivated Plants. M

ABS. JOUR.: Ref Zhur -Biologiya, No. 5 , 1959, No. 20249

Author :
INST. :
TITLE :

ORIG. PUB.:

ABSTRACT : greatest susceptibility was discovered in the Bukovinskiy hybrid. To augment the resistance of corn to disease, it is recommended that only the grain from the top cobs be used, while within the cobs only the center seeds; applying phosphorus and potassium fertilizers increases the resistance to boil smut. -- A.F. Khlystova

CARD : 2/2

CHEREMISINOV, N.A., doktor biol.nauk

Timely disinfection of seed corn. Agrobiologiia no.5:105-108 S-O '58. (MIRA 11:11)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Corn(Maize)) (Seeds--Disinfection)

CHEREMISINOV, N.A.; SHEMYAKIN, I.Ya. (Voronezh)

"Manual for the identification of house fungi" by A.S.Bondartsev. Reviewed by N.A.Cheremisinov. Bot.zhur. 43 no.12:1766-1767 D '58. (MIRA 11:12)

(Wood-decaying fungi) (Bondartsev, A.S.)

CHEREMISINOV, N.A.

Biology of Roegneria. Trudy Bot.inst.Ser.6 no.7:236-237 '59.
(MIRA 13:4)

1. Voronezhskiy sel'skokhozyaystvennyy institut (VSKhI).
(Roegneria)

CHEREMISINOV, N.A.

Session of the Voronezh section of the All-Union Botanical Society dedicated to the memory of B.M. Kozo-Polianskii. Bot. zhur. 44 no.2: 276 F '59. (MIRA 12:6)
(Kozo-Polianskii, Boris Mikhailovich, 1890-1957)

VAKIN, A.T.; VASIL'YEVA, L.N.; GOLOVIN, P.N.; KOMARNITSKIY, N.A.; LITVINOV, M.A.; SOSIN, P.Ye.; STRAKHOV, T.D.; TETEREVNIKOVA-BABAYAN, D.N.; CHEREMISINOV, N.A.; SHCHERBINA, T.S.

"Bracket fungi of the European part of the U.S.S.R. and the Caucasus" by A.S. Bondartsev. Reviewed by A.T. Vakin and others. Bot. zhur. 44 no.3:412-414 Mr '59. (MIRA 12:7)
(Wood-decaying fungi) (Bandartsev, A.S.)

CHEREMISINOV, N.A.

Species of fungi causing corn diseases and pathways of fungal infections in corn seeds. Bot. zhur. 44 no.7:916-928 Jl '59. (MIRA 12:12)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Corn (Maize)—Diseases and pests)
(Fungi, Phytopathogenic)

CHEREMISINOV, N.A.

Immunological significance of heterogeneity in corn seeds. Nauch. dokl. vys. shkoly; biol. nauki no.1:167-171 '60.
(MIRA 13:2)

1.Rekomendovana kafedroy mikrobiologii, fiziologii rasteniy i fitopatologii Voronezhskogo sel'skokhozyaystvennogo instituta.
(Corn (Maize)—Disease and pest resistance)

CHEREMISINOV, M.A.

"Concise course in plant immunity to infectious diseases" by M.V.Gorlenko. Reviewed by M.A.Cheremisinov. Bot.zhur. 45 no.8:1241-1243 Ag '60. (MIRA 13:8)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Plants—Disease and pest resistance)
(Gorlenko, M.V.)

CHEREMISINOV, Nikifor Andrianovich, prof.; BOYEVA, Lidiya Ivanovna, assistent; SEMIKHATOVA, Ol'ga Anatol'yevna, assistent; KAPYSHEVA, V.S., red.; PAVLOVA, V.A., tekhn. red.

[Practical training work in microbiology] Praktikum po mikrobiologii. Pod red. N.A. Cheremisinova. Moskva, Gos. izd-vo "Vysshaia shkola," 1961. 110 p. (MIRA 15:4)
(MICROBIOLOGY--STUDY AND TEACHING)

CHEREMISINOV, N.A.

Fusarium infection of corn seeds and ears. Bot.zhur. 47 no.4: 461-472 Ap '62. (MIRA 15:8)

1. Voronezhskiy sel'skokhozyaystvennyy institut.
(Corn (Maize)--Diseases and pests) (Fusarium)

CHEREMISINOV, N.A., doktor biolog.nauk

Sclerotinia infection of corn. Zashch. rast. ot vred. i bol. 6 no.4:25-26 Ap '61. (MIRA 15:6)
(Voronezh Province—Corn (Maize)—Diseases and pests)
(Sclerotinia)

CHEREMISINOV, N.A.

In memory of Maksim Semenovich Utkin. Nauch.dokl.vys.shkoly; biol. nauki no.4:210-212 '62. (MIRA 15:10)
(UTKIN, MAKSIM SEMENOVICH, 1884-1941)

CHEREMISINOV, N.A., prof.

Anniversaries. Zashch. rast. ot vred. i bol. 7 no.8:60-61 Ag '62.
(MIRA 15:12)
(Stepanov, Evgenii Mikhailovich, 1902-)
(Bondartsev, Apollinarii Semenovich, 1877-)

CHEREMISINOV, N.A.

B.M.Kozo-Polianskii as a teacher and phytopathologist. Izv. AN SSSR. Ser.biol. no.2:275-282 Mr.Ap'62. (MIRA 16:7)

1. Sel'skokhozyaystvennyy institut, Voronezh.
(KOZO-POLIANSKII, BORIS MIKHAILOVICH, 1890-)

CHEREMISINOV, N.A. (Moskva)

Prominent Soviet mycologist and phytopathologist; Apollinarii Semenovich Bondartsev's 85th birthday. Bot. zhur. 47 no.12: 1850-1855 D '62. (MIRA 16:6)
(Bondartsev, Apollinarii Semenovich, 1877-)

CHEREMISINOV, N.A.; VANDYSHEVA, N.I.

Effect of microelements on the growth, development and disease resistance of corn. Nauch. dokl. vys. shkoly; biol. nauki no.4:157-158 '63 (MIRA 16:11)

1. Rekomendovana kafedroy mikrobiologii, fiziologii rasteniy i fitopatologii Voronezhskogo sel'skokhozyaystvennogo instituta.

CHEREMISINOV, N.A., doktor biolog. nauk, prof.

D.N. Ternikova-Babaian's book. Zashch. rast. ot vred. i bol. 9 no.8:62 '64. (MIRA 17:12)

15-57-1-850

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 1, p 134 (USSR)

AUTHOR: Cheremisinov, O. A.

TITLE: The Determination of Reservoir Properties of Rocks by Natural Potentials (K voprosu opredeleniya kollektorskikh svoystv gornykh porod metodom yestestvennykh potentsialov)

PERIODICAL: V sb: 10-ya nauch-tekhn. konferentsiya, 1955, (Nauch. stud. o-vo, Mosk. neft. in-t). Leningrad, Gostoptekhizdat, 1956, pp 38-51.

ABSTRACT: The author suggests that the development of diffusion potentials in drill holes is controlled by two forms of ionic adsorption. The first of these involves the adsorption by electrically neutral clay particles of ions with a smaller hydroxide radius, which also constitutes the internal face of the micelle. For a solution of NaCl, this will be the Cl ions, whereas the sodium ions form an ionic atmosphere. In the

The Determination of Reservoir Properties of Rocks (Cont.)

second type of adsorption, the surfaces of the mineral particles participate in chemical interaction with the ambient medium, forming new combinations, capable of electrolytic dissociation, on the surface. The seepage potentials for the Tuymazy region reach 40 percent of the total value of the deflection of the self-potential curves opposite the permeable layers. A graph was constructed from electric logs showing the relationship between the amount of deflection on the self-potential curve and the resistance in the drilling solution. This graph appears as a straight line, indicating, in the author's opinion, an increase in the effect of seepage potentials with a decrease in the mineralization of the drilling muds. A study of the relationship between the amplitude of the deflection of the self-potential curve opposite the bed and its permeability led to the construction of a curve which shows that changes in the permeability, within the limits of 50 and 200 millidarcies, are such that an increase in the amplitude of the self-potential deflection is accompanied by an increase in the permeability. At values for the permeability that exceed 200 millidarcies, the amplitude of the self-potential deflection does not change with

The Determination of Reservoir Properties of Rocks (Cont.)

increase in permeability. Measurements of the electrical activity of samples of sand have shown that the value depends on the concentration of NaCl that is in contact across the samples that are saturated with KCl and on the mineralization of the water saturating the samples. In particular, the coefficient of diffusion-adsorption activity in argillaceous sandstones ranges from + .12 to + 17 mv when the sample is saturated with stratal water from the Tuymazy field. It ranges from + 25 to — 27 mv when saturated with distilled water, and from + 39 to + 43 mv in air-dried samples. A comparison of the coefficient of diffusion-adsorption activity and the permeability shows that the relationship between the value of this coefficient and the coefficient of permeability lies within the same limits as those for the amplitude of the self-potential deflection; i.e., from 10 to 200 millidarcies.

Card 3/3

N. A. P.

CHEREMISINOV, V. P. C/1963 1964

Tellurium Oxide

DECEASED

L 33974-65 EWG(j)/EWT(l)/EWP(e)/EWI(m)/EPF(c)/EWG(m)/EPR/EEC(t)/T/EWP(t)/EWP(b)/
EWA(c) Pq-4/Pr-4/Ps-4/Peb IJP(c) RDW/JD/WH
ACCESSION NR: AT4042142 S/2504/64/025/000/0153/0208

AUTHOR: Cheremisinov, V. P.

TITLE: Vibration spectra and the structure of certain oxides in crystalline and glass-like states

SOURCE: AN SSSR. Fizicheskiy institut. Trudy, v. 25, 1964. Opticheskiye metody issledovaniya struktury tverdogo tela (Optical methods for studying the structure of solids), 153-208

TOPIC TAGS: vibration spectrum, oxide vibration spectrum, infrared absorption spectrum, crystal structure, glass structure, arsenic oxide, antimony oxide, tellurium oxide, germanium oxide

ABSTRACT: The basic purpose of this Ph. D. thesis, defended at the Fizicheskiy fakul'tet MGU (Physics department of Moscow State University) on Nov. 14, 1962, was to study the spectra of combination scattering of numerous oxides and the infrared absorption spectra up to 36 μ. The paper describes the experimental part in detail and gives a thorough theoretical treatment of the experimental data. The author 1) developed a simplified method for the production of combination scattering spectra from powders; 2) studied the combination scattering and infrared

Card 1/3

absorption spectra of crystalline As_2O_3, Sb_2O_3, As_2O_5, Sb_2O_5, TeO_2, GeO_2 (two modifications) and glass-like phases of As_2O_3, GeO_2, and TeO_2; 3) found similarities in the vibration spectra of the crystal and glass phases of As_2O_3, GeO_2, and TeO_2; 4) showed, on the basis of vibration spectra studies, that the arsenious acid anhydride consists of As_4O_6 molecules; 5) found a similar situation in the case of Sb_4O_6 with a point symmetry group T_d; 6) established that the arsenic anhydride consists of As_4O_{10} molecules likewise having T_d symmetry; 7) found that the vibration spectrum of Sb_2O_5 agrees with the coordination lattice structure having elementary cells belonging to the O_h symmetry group; 8) deduced that the soluble and glass-like GeO_2 modification appears to have an elementary cell consisting of three GeO2 groups belonging to the D_3 symmetry group; 9) studied the vibration spectra and X-ray diffraction diagrams of TeO_2 and related its elementary cell containing four TeO_2 groups to the spatial D_4 symmetry group; 10) found that the glass-like polyphosphate has a chain lattice structure, and 11) discovered that during the crystal-glass transitions the changes in the spectral line widths may serve as rough criteria for the structure of the respective substances. "The author thanks the sponsor, Doctor of Physico-Mathematical Sciences N. N. Sobolev, for suggesting the subject of the thesis and for constant interest and support. T. G. Barenova

L 33974-65

ACCESSION NR: AT4042142

5

is thanked for her help during the calculations, N. I. Chutkina for the preparation of the crystalline and glass-like samples of As_2O_3, M. M. Sushchinskiy for lending the equipment and for help during the polarization spectra determination of glass-like TeO_2 and polyphosphate samples, and A. I. Demeshina and V. K. Murzin, Co-workers at the Laboratoriya poluprovodnikov (Semiconductor Laboratory), for the experimental equipment and help during the work." Orig. art. has: 5 formulas, 38 figures, and 23 tables.

ASSOCIATION: Fizicheskiy institut AN SSSR (Physics institute, AN SSSR)

SUBMITTED: 00 ENCL: 00 SUB CODE: SS,IC

NO REF SOV: 031 OTHER: 033

Card 3/3

L 46301-65 EWT(1) IJP(c)

ACCESSION NR: AR5012225 UR/0058/65/000/003/D013/D013

SOURCE: Ref. zh. Fizika, Abs. 3D81

AUTHOR: Sobolev, N.N.; Antropov, Ye.T.; Gippius, Ye.F.; Granov, A. P.; Krindach, N. I.; Kudryavtsev, Ye.M.; Pechenov, A.N.; Sviridov, A.G.; Funitskiy, L.N.; Fayzullov, F.S.; Cherepisinov, V. P.

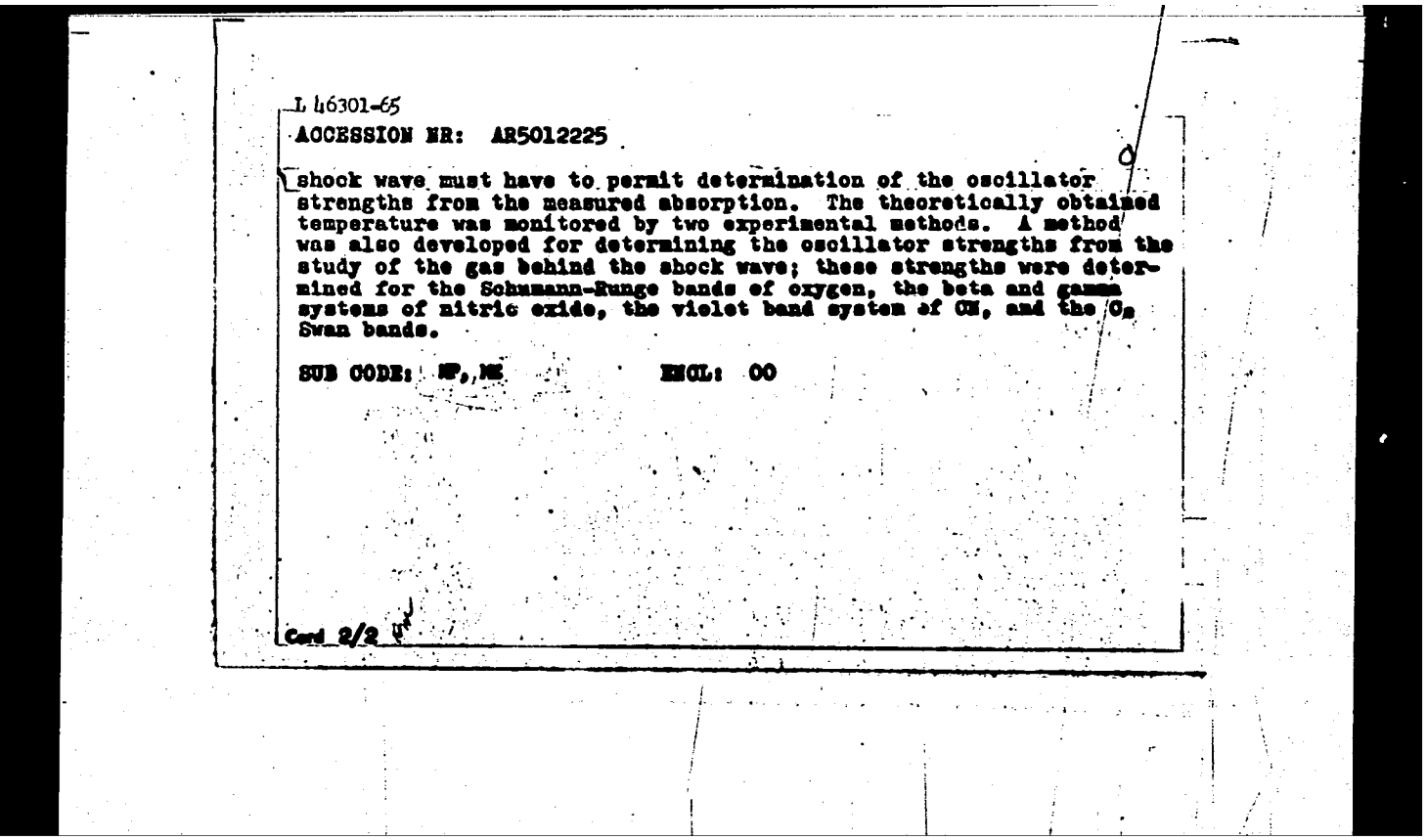
TITLE: Experimental determination of electronic oscillator strengths of diatomic molecules

CITED SOURCE: Tr. Komis. po spektroskopii. AN SSSR, vyp. 1, 1964, 64-81

TOPIC TAGS: oscillator strength, electron oscillator, diatomic molecule, shock wave, oxygen, nitric oxide, cyan, electronic spectrum

TRANSLATION: To determine the oscillator strengths of electronic transitions of diatomic molecules, an experimental method was developed, based on the measurement of the absorption of gas behind a shock wave reflected from the end of a shock tube. By varying the velocity of the incident shock wave and by calculating the state of the gas behind the shock wave, it is possible to determine the temperature and the concentration that the molecules behind the reflected

Card 1/2



L 46301-65

ACCESSION NR: AR5012225

shock wave must have to permit determination of the oscillator strengths from the measured absorption. The theoretically obtained temperature was monitored by two experimental methods. A method was also developed for determining the oscillator strengths from the study of the gas behind the shock wave; these strengths were determined for the Schumann-Runge bands of oxygen, the beta and gamma systems of nitric oxide, the violet band system of CN, and the C_2 Swan bands.

SUB CODE: NP, NE ENCL: 00

Card 2/2

DONSKAYA, G.K.; CHEREMISINOVA, I.P.; TYUTCHEVA, F.M., red.; MAMONTOVA, N.N., tekhn. red.

[Aid to the young agricultural machinery operator; a list of recommended literature] V pomoshch' molodomu mekhanizatoru sel'skogo khoziaistva; rekomendatel'nye spiski literatury. Moskva, 1963. 50 p. (MIRA 16:12)

1. Moscow. Publichnaya biblioteka.
(Bibliography--Agricultural machinery)

BOGATOVA, G.P.; DROBININ, O.I.; CHEREMISINOVA, I.P.; NADEZHINA, G.A., red.; FADEYEVA, Ye.I., red.

[Books on the chemization of the national economy; lists recommended for district and rural libraries] Knigi po khimizatsii narodnogo khoziaistva; rekomendatel'nye spiski dlia raionnykh i sel'skikh bibliotek. Moskva, Izd-vo "Kniga," 1964. 23 p. (MIRA 18:1)

1. Moscow. Publichnaya biblioteka.

DROBININ, O.; RAZMAKHNINA, N.; CHEREMISINOVA, I.; LUPOVA, M., red.; SEMENOVA, L.V., red.

[Youth at the construction sites for large-scale chemistry; a discussion on books] Molodezh' na stroikakh bol'shoi khimii; beseda o knigakh. Moskva, Izd-vo "Kniga," 1964. 26 p. (MIRA 18:4)

1. Moscow. Publichnaya biblioteka.

L 12311-63 S/081/63/000/005/068/075

4/4

AUTHOR: Baramboym, N. K., Saltusova, Ye. P. and Cheremisinova, S. P.

TITLE: The effect of the nature of adhesive materials on the temperature conditions of adhesion

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 618 abstract 5T280 (Nauch. tr. Mosk. tekhnol. in.-t. legkoy prom-sti, 1961, no. 23, 71 - 74)

TEXT: The relationships of the rate of heating of press plate and an adhesive seam made of fast hardening resins, used in the shoe industry, as well as of changes in temperature as a function of the nature of pairs of the cemented materials (SM) during one-sided heating were investigated. The following materials were used as SM: undyed fabric (serge ticking) (1), shoe sole leather 4 mm in thickness (2), porous colored rubber 6 mm in thickness (3). Even under relatively slow simultaneous heating of the press plate and SM, a significant drop in temperature exists between them, the absolute value of which depends on the thickness of the material and its thermal insulation properties. If, after 1 hour, the temperature attained by press plate is 100°

Card 1/2

L 12311-63

The effect of the nature of .....

0

S/081/63/000/005/068/075

C, a drop in (1) ~5° C, then for (2) ~45° C and for (3) ~50° C. The rate of temperature rise of the adhesive seam is influenced not only by the nature of the material, through which the heat is conducted, but also by the nature of the material of the glued pair. Acceleration of the processes of adhesion must be based, not on intensification of the heating effect, but in finding the cold hardening adhesives, the use of high frequency current for effective heating of the adhesive seam, finding of exothermic self-heating adhesives and the use of the electric shock effect in hardening. V. Glagolev.

[Abstractor's note: Complete translation]

Card 2/2

USSR/Soil Science - Physical and Chemical Properties of Soil. J-3

Abs Jour : Ref Zhur - Biol., No 5, 1958, 20061

Author : Kuznetsov, K.A., Cheremisinova, V.N.

Inst : Penzenskiy Agricultural Institute.

Title : The Physical Water Properties of the Weakly Leached Chernozem Soils.

Orig Pub : Sb. tr. Penzensk. s.-kh. in-ta, 1956, vyp, 1, 127-134

Abstract : No abstract.

Card 1/1

CHEREMISINOVA, Ye.A.

Age of marine Interglacial (Yoldia) clay in the Gdanskaya Bukhta (Poland). Dokl. AN SSSR 155 no. 3:580-582 Mr '64. (MIRA 17:5)

1. Predstavleno akademikom V.N.Sukachevym.

CHEREMISINOVA, Ye.A.

New diatoms from the Miocene of Western Siberia (Diatomeae novae aetatis myocaenae e Sibiria occidentali). Bot.mat.Otd. spor.rast. 10:104-107 Ja '55. (MLRA 8:7)
(Siberia, Western--Diatoms, Fossil)

CHAREMISINOVA, Ye.A.

Melosira miocaenica sp. nova from the Miocene of Western Siberia.
Bot.mat.Otd.spor.rast. 11:60-61 Ja '56. (MLRA 9:11)
(Omsk Province--Diatoms, Fossil)

Cheremisinova, Ye. A.

Translation from: Referativnyy zhurnal, Geologiya, 1957, Nr 7, 15-1957-7-9088
p 36 (USSR)

AUTHOR: Cheremisinova, Ye. A.

TITLE: New Diatoms From the Oligocene of the Ukraine (Novyye diatomovyye iz oligotsena Ukrainy)

PERIODICAL: Botan. materialy Otd. sporovykh rast. Botan. in-t AN SSSR, 1956, vol 11, pp 62-64

ABSTRACT: New data are given on the diatoms of the Upper Oligocene of the Ukraine (the Oskol River and the Khar'kov oblast'). In addition to the characteristic group of marine species already known from the Khar'kov flora, new fresh water species are described of the genus Melosira (M. Goretzkyi Tscherem.) and also Diploneis poretzkyi and Pinnularia antiqua, which are bottom-dwelling and possibly fresh water. The discovery of these last two indicates a greater age for the genera

Card 1/2

New Diatoms From the Oligocene of the Ukraine (Cont.) 15-1957-7-9088

Card 2/2 Diplonels and Pinnularia than was earlier supposed.

A. P. Zhuze

CHERNISHOVA, Ye.A.

Diatomaceous marine flora of Quaternary deposits of the Lake Ladoga Depression. Biul. Kom. chetv. per. no.21:105-112 '57. (Ladoga, Lake--Diatoms, Fossil) (MLRA 10:6)

3(0)

AUTHORS: Nikonov, A. A., Cheremisinova, Ye. A. SOV/20-123-3-43/54

TITLE: Recent Data on Late and Postglacial Marine Basins in the Western Part of the Kola Peninsula (Novyye dannyye o pozdne- i poslelednikovykh morskikh basseynakh na zapade Kol'skogo poluostrova)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 3, pp 530-533 (USSR)

ABSTRACT: The recent land forms and the formation and distribution of glacial deposits in the Kola peninsula, and likewise in the other marginal areas of Fennoscandia, were determined in post-glacial time by the combined effects of the shrinking ice cover, the isostatic uplifts, and the fluctuations of the sea level. The multipurpose investigations of the previously very slightly known, western mainland part of the peninsula have clarified several questions which concern the problem mentioned in the title and have supplemented previous data (Refs 1-5). These glacial sediments mentioned in the title are distributed in depressions as bands 1 to 6 km wide, which extend from the west and southwest toward the east and northeast. At present they are

Card 1/4

encompassed by the Lotta and Nota Rivers and their tributaries, the Yauri-yoki and Girvas. 3 distinct masses can be recognized: 1. banded clays 2. stratified clays, clayey and sandy soils 3. fine-grained sand and sandy soil. These sediment masses belong to 2 complexes: Portlandiya and Folas. Portlandiya complex: The lithologic composition is described, and a list of the diatom complexes found (Table 1), which are characteristic of the Portlandiya sea, is given. The assemblage contains forms of various ecologies and origins: 1. species of a fresh-water, arctic—alpine nature, which live in the shallow bank zones of northern lakes and rivers. 2. Salt water and marine elements, coastal zone inhabitants. Group 1 is numerically predominant. The Portlandiya sea was almost fresh. Pollen of herbaceous plants and the undershrubs (dwarf birch - Betula nana - 46-75%, heather - Ericaceae - 6 - 7 %) are predominant among the pollen assemblages. Also found were wormwood pollen (Artemisia) and pollen from orach(Atriplex). The composition of the spores is varied, e.g. abundant green moss, many ferns (Polypodiaceae) and club-moss plants (Lycopodiaceae). This composition indicates sparsely forested or forestless lands with dwarf birch bushes and a covering of grass and moss in the area. Salt water of the

Portlandiya transgression gradually invaded the glacial waters. However, the salinification did not advance very far into the narrow and long ocean bays. The arrival of melt water from the glacier also worked against salinfication (Ref 2). Sedimentation occurred chiefly in bay areas near the shore from erosion of moraine materials and from materials brought by the glacial melt waters. The suspended materials in the glacial waters were deposited in the central parts of the bays. Fresh water diatom species increased after the retreat of the Portlandiya sea. Folas complex: The chiefly fine, gray sand forms narrow (up to 1 km wide) bands in the axial parts of the depressions. Their thickness attains 15-20 m. Table 2 contains a list of the diatom assemblages. Among them are many marine salt-water inhabitants: littoral and upper sublittoral dwellers. The Folas sea was not more than 40-45 m deep. In the western sections, which were farthest from the open sea, the assemblages are composed almost entirely of fresh-water forms. Tree species are predominant among the pollen assemblages (66%),

and grasses and undershrubs comprise 22% of the assemblage. The climate was far milder, and fir-birch forests extended. No further transgressions have occurred in this region. There are 2 tables and 6 references, 4 of which are Soviet.

ASSOCIATION: Geologicheskiy institut Kol'skogo filiala Akademii nauk SSSR (Geological Institute of the Kola Branch of the Academy of Sciences, USSR)

PRESENTED: June 28, 1958, by D. V. Nalivkin, [redacted]

SUBMITTED: June 26, 1958

CHEREMISINOVA, Ye.A.

Age of marine interglacial deposits in the Mga Valley in Leningrad Province. Biul. Kom. chetv. per. no.25:50-70 '60. (MIRA 14:1)
(Mga Valley--Clay)

CHEREMISINOVA, Ye.A.

Diatoms from marine interglacial deposits in the Onega Basin.
Dokl. AN SSSR 139 no.3:692-695 Jl '61. (MIRA 14:7)

1. Predstavleno akademikom V.N. Sukachevym.
(Onega Valley--Diatoms, Fossil)

CHEREMISINOVA, Ye.A.

Diatoms from marine interglacial deposits of the Estonian S.S.R. Dokl. AN SSSR 141 no.3:698-700 N '61. (MIRA 14:11)

1. Tematicheskaya kompleksnaya ekspeditsiya Severo-Zapadnogo geologicheskogo upravleniya. Predstavleno akademikom V.N. Sukachevym.

(Prangli Island--Diatoms, Fossil)

VIGDORCHIK, M.Ye.; PLESHIVTSEVA, E.S.; CHEREMISINOVA, Ye.A.

Marine interglacial deposits in the Il'men' Depression. Dokl. AN SSSR 141 no.5:1167-1170 D '61. (MIRA 14:12)

1. Predstavlano akademikom V.N. Sukachevym.
(Il'men' Lake region--Geology, Stratigraphic)

CHEMISINOVA, Ye.A.

Diatom flora in the marine interglacial sediments of the Kola Peninsula. Mat. po geol. i pol. iskop. Sev.-Zap. RSFSR no.3:45-57 '62.

Diatom flora in the marine sediments of the Lotta Valley. Ibid.:58-68

(MIRA 17:12)

CHEREMISINOVA, Ye.A.

Marine diatom flora in the region of the Vytegra River (Onega-Beloye Ozero Watershed). Dokl.AN SSSR 145 no.4:891-894 Ag '62. (MIRA 15:7)

1. Predstavleno akademikom V.N.Sukachevym.
(Vytegra Valley—Diatoms, Fossil)

9,2582

24473

S/109/61/006/006/014/016
D204/D303

AUTHORS: Basov, N.G., Strakhovskiy, G.M., Cheremiskin, I.V.

TITLE: A study of dependence of molecular generator frequencies on various parameters. Part II. Line J=3, K=3

PERIODICAL: Radiotekhnika i elektronika, v. 6, no. 6, 1961, 1020 - 1028

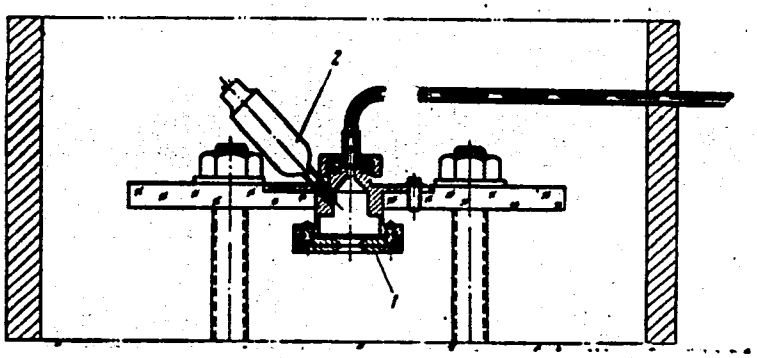
TEXT: Following the theoretical analysis as given by N.G. Basov, A.V. Nikitin, and A.N. Orayevskiy (Ref. 5: Radiotekhnika i elektronika 1961, 6, 5, 796); the authors give in the present article the results of the experimental study of a molecular generator J=3 K=3 of ammonia $N^{14}H_3$. Its frequency was studied as dependent on the tuning of the resonator, on the voltage at the quadruple capacitor and pressure at the molecular beam source. The source, capacitor and resonator were very accurately designed. The beam was shaped by a 0.05 x 0.05 mm grid with the space factor of 0.25, thickness of the grid 0.05 mm. The diameter of the output beam -

Card 1/6

21473
S/109/61/006/006/014/016
D204/D303

6 mm. Gas pressure inside the source was measured by a vacuum gauge BT-2 (VT-2). The pressure gauge tube ЛТ-4 (LT-4) was connected directly to the source camera (Fig. 2).

Fig. 2. Source of molecular beam 1 and pressure gauge tube 2.



Card 2/6

A study of dependence of ...

S/109/61/006/006/014/016
D204/D303

A diaphragm forming a very narrow molecule beam was inserted between the source and quadruple condenser. The diaphragm was liquid nitrogen cooled. The capacitor was 150 mm long with spacing between plates of 2 mm. The beam was entered into a resonator 80 mm, with E_{010} made of oscillatrons. The invar resonator had silvered walls, its Q 6000-8000. Tuning of the resonator within a few megacycles was achieved by a 2 mm diameter rod, screwed into the resonator to a depth up to 1 mm. The Q was not affected by tuning. The displacement of tuning rod by 0.1 mm (10 divisions on the Vernier) changed the resonant frequency of the resonator by approximately 0.5 mc/s and the generated frequency by approximately 1000 c/s. The resonant cavity was thermostatically controlled within 0.01°C, this change in temperature producing a frequency change of the generator of 1 c/s. The frequency changes in the generator due to changing its parameters were measured by comparing it with another generator, the frequency of which was kept constant within 2-5 c/s. The frequencies of three molecular generators differing

Card 3/6

by a few hundred cycles, were mixed in a hybrid ring, actually a balanced mixer, to which was also applied the output of a heterodyning klystron 5, tuned to 23,830 Mc/s. From the balanced mixer the generated power was applied to F, a 40 Mc/s IF amplifier with a 2 Mc/s passband and gain of 10,000. The klystron local oscillator was frequently stabilized to approximately 50 kc/s. After the second detector, the signal having a frequency Δf between the difference of frequencies of molecular generators No. 3 and No. 2 was applied to an oscillosope type Эо-7 (Eo-7) with the output of an audio generator ЗГ-12 (ZG-12) applied to the horizontal sweep terminals and Δf was measured from the Lissajous figures, the relative power change was measured simultaneously with Δf by means of deflecting part of the power from the resonator and by amplifying it in a narrow band IF amplifier (pass-band about 70 Kc/s), with double frequency conversion. Using the above method three series of graphs were taken. 1) Changes in amplitude (power) W and in generated frequency Δf as dependent on changes in pressure p at the source, for various fixed detunings v of resonator and various U

A study of dependence of ...

at the condenser. $W = f(p)_{\nu,u}$; $\Delta f = f(p)_{\nu,u}$; 2) Changes in amplitude (power) and in the frequency of the generator as dependent on the voltage for different fixed pressures and detuning of the resonator: $W = f(u)_{p,\nu}$; $\Delta f = f(U)_{p,\nu}$; 3) Changes in amplitude (power) and of the generated frequency with changes in resonator tuning: $W = f(v)_{p,u}$; $\Delta f = f(v)_{p,U}$ for given pressure and voltage at the capacitor. The generation of frequency was observed in the absence of voltage at the quadruple capacitor. It was also observed that even with the icing and subsequent partial blocking of the diaphragm, the generators continued to operate. The analysis of experimental graphs illustrating the dependence of generated frequency on parameters of the molecular generator, permits evaluation of the maximum possible long term relative stability of oscillations for the line J=3, K=3. Assuming the pressure in the source to be static within 1 % the voltage at the capacitor within 0.2 % and the temperature of the cavity resonator left within

Card 5/6

A study of dependence of ...

0.002°C the long term relative stability

$$\frac{\Delta f}{f} \cong 10^{-11}.$$

It is also seen that tuning by pressure and voltage change does not seem to be very accurate since it would require too accurate changes in these quantities and, for the analyzed type of generator, tuning thus obtained could not be better than 10^{-9}. Finally, to increase the absolute stability of the generator, lines of ammonia without hypertone structure should be used, e.g. J=3, K=2 $N^{14}H_3$ or lines $N^{15}H_3$. There are 10 figures and 8 references: 3 Soviet-bloc and 5 non-Soviet-bloc. The four most recent English-language publications read as follows: J.C. Helmer, J. Appl. Phys. 1957, 28, 212; K. Shimoda, J. Phys. Soc. Japan, 1957, 12, 1006; K. Shimoda, J. Phys. Soc. Japan, 1958, 13, 939; F. Barnes, Proc. I.R.E., 1959, 47, 2085.

SUBMITTED: June 17, 1960

Card 6/6

9.2582 (3002,2105)

21211
S/188/61/000/001/009/009
B104/B203

AUTHORS: Lyubimov, G. P., Strakhovskiy, G. M., Cheremiskin, I. V.

TITLE: Simple method of tuning a molecular generator

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, no. 1, 1961, 79-81

TEXT: At the Moskovskiy gosudarstvennyy universitet (Moscow State University), a molecular generator was produced and put into operation in 1958, which operates with the lines I = 3 and K = 3 of $N^{14}H_3$ and corresponds to a type developed at the FIAN by N. G. Basov and A. M. Prokhorov (Ref. 1: Basov, N. G., Prokhorov, A. M., ZhETF, 27, 431, 1954; Ref. 2: Basov, N. G., Prokhorov, A. M., DAN, 101, 47, 1955; Ref. 3: Basov, N. G., "Radiotekhnika i elektronika", 1, 752, 1956). The molecular beam was formed in this molecular generator with a Cu-foil grid having square holes with a lateral length of 0.05 mm and a duty factor of 0.25. The authors studied a replacement of the grid by a single channel 10 mm long with various diameters. Optimum results were obtained with a channel 1.5 mm in diameter; as compared with the grid type, the signal-to-

Card 1/4

noise ratio could be increased by the 2-3 fold. The signal-to-noise ratio was 20-30 db. Further, a simple method for the start-up and coarse adjustment was suggested. The principal stages of the start-up of the molecular generator are: tuning of the resonator for the absorption line, observation of the induced emission and generation, tuning of the resonator for the spectral line. In general, the transition from one stage to another is connected with changes in the radio circuit. The method suggested does not require any changes in the radio circuit, and permits a quick start of the molecular generator and a quick adjustment for the frequency of the spectral line with sufficient accuracy. Fig. 1 shows a block diagram of the arrangement. While the switch is closed, a saw-tooth voltage of a few kilocycles is applied to the auxiliary klystron of the "intensity gate". A frequency characteristic is observed on oscilloscopes, which consists of a number of narrow vertical lines each of which is a resonance curve of the narrow-band intermediate-frequency amplifier (band width 50-100 kc/sec). If the resonator is filled with ammonia at a pressure of 10^{-2}-10^{-4} mm Hg, the frequency characteristic of the resonator shows a trough due to ammonia absorption. In photographs of the oscilloscope trace, the absorption line is observed up to pressures of a few 10^{-5} mm Hg. With higher vacuum and

Simple method of tuning a...

application of a voltage to the sorting system, the trough caused by absorption disappears, and an ejection appears instead of the absorption line; the ejection is caused by the initially induced emission and also by the generation. The tuning of the resonator adjusts the generation line to the maximum of the resonance curve of the resonator with sufficient accuracy. After switching off the high-frequency saw-tooth voltage, the signal of the molecular generator is obtained on the oscilloscope. There are 4 figures and 3 Soviet-bloc references.

ASSOCIATION: Kafedra atomnoy fiziki (Department of Atomic Physics)

SUBMITTED: July 18, 1960

Card 3/4

21214
S/188/61/000/001/009/009
B104/B203

Simple method of tuning a...

Legend to Fig. 1:
(1) Molecular generator, (2) auxiliary klystron of the "intensity gate", (3) klystron supply, (4) saw-tooth generator, 0-10 kc/sec, (5) balancing mixer, (6) heterogeneous klystron, (7) klystron supply, (8) saw-tooth generator, 0-50 kc/sec, (9) intermediate-frequency amplifier for 40 Mc/sec with a pass band of 70 kc/sec, (10) oscilloscope.

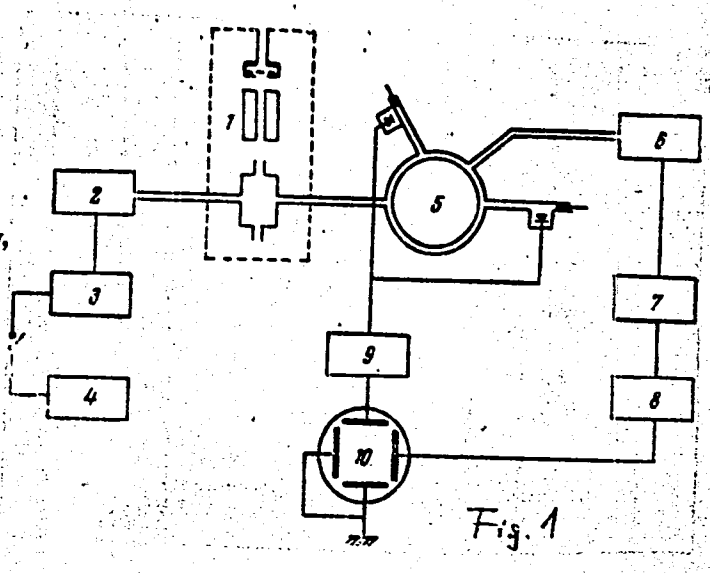


Fig. 1

Card 4/4

38212
S/109/62/007/005/021/021
D230/D308

9.2574

AUTHORS: Zuyev, V.S., and Cheremiskin, I.V.

TITLE: Emission line width of a maser

PERIODICAL: Radiotekhnika i elektronika, v. 7, no. 5, 1962, 918 - 919

TEXT: The author examines the dependence of the above width on the intensity of the molecular beam, and on the design of the source of the molecular beam (thin diaphragm, long channels). For small beam intensities the frequency pass band of the molecular amplifier corresponds to the spectral line width, but the observation and measurement of the latter is difficult owing to inadequate sensitivity of the receiver. For large beam intensities, the frequency pass band is considerably narrowed due to regeneration, and direct bandwidth measurement does not indicate the spectral line-width. For the measurement of line-width the following method is appropriate: the relation between the frequency pass band and the self-excitation parameter is measured in the region of higher beam intensity in which the observation is not limited by receiver sensitivity; then, one

Card 1/3

4